

ABSTRACT OF THE DISCLOSURE

The invention provides a method for manufacturing molten metal at low cost and high productivity by melt-reducing a metal oxide and/or a metal hydroxide such as iron ore. To do this, at least the metal oxide and/or the metal hydroxide such as iron ore is preliminarily mixed, preliminarily mixed and granulated, or preliminarily mixed and molded with a carbonaceous material to prepare a mixture of raw materials. The mixture of raw materials is preliminarily reduced in a prereduction furnace of rotary hearth type, rotary kiln type, or the like to average metallization degree of the metal oxide and/or the metal hydroxide from 5 to 55%, which is then charged to a melting furnace for metal smelting, where the mixture of the raw materials is melted and finally reduced using the carbonaceous material as the reducing agent and using the combustion heat of the carbonaceous material and of carbon monoxide generated in the furnace as the major heat source. Through the process, molten metal such as molten iron is manufactured assuring favorable energy balance and high productivity.

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